

## Marathon Petroleum Company LP

1300 South Fort Street Detroit, MI 48217 Telephone 313/843-9100

#### VIA FEDERAL EXPRESS

October 11, 2011

Mr. Chris Ethridge MDEQ – Air Quality Division 3058 West Grand Blvd. Suite 2-300 Detroit, MI 48202



Re: Continuous Emissions Monitoring System Reports for the Third Quarter 2011; Marathon Petroleum Company LP – Michigan Refining Division

Dear Mr. Ethridge:

This report contains information and data related to continuous emissions monitoring systems (CEMS) at Marathon Petroleum Company LP's (MPC's) Michigan Refining Division (MRD) for the third quarter 2011. These reports are submitted pursuant to the General Provisions of the federal New Source Performance Standards (40 CFR 60.7) and Rule 1170 of the Michigan Air Pollution Control Rules. In addition, this report contains information required by the first modification to the November 2005 First Revised NSR Consent Decree, United States of America et. al. v. Marathon Petroleum Company LLC (Civil Action No. 4:01CV-40119-PVG), lodged February 7, 2008 and entered on March 31, 2008. This report is divided into four attachments as follows:

**Appendix A** – CEMS downtime and excess emissions summary reports pursuant to 40 CFR 60.7(d) for all environmental analyzers at the Refinery. The CEMS did not exceed the downtime limit of 5%. The excess emission limit of 1% was exceeded at the Sulfur Plant (SRU) Thermal Oxidizer and the FCCU Regenerator Opacity Monitor.

**Appendix B** - New Source Performance Standards (NSPS) Subpart J Alternate Monitoring Plan (AMP) data for seven streams: (1) Alky Spent Caustic H2S, (2) CCR/SR Recycle H2 H2S, (3) DHT/Unifiner Recycle H2 H2S, (4) FCCU Disulfide off-gas H2S, (5) CP Spent Caustic Drum Vent H2S, (6) SR Aromatics Sump Vent H2S, and (7) CCR Chlorsorb Vent SO2.

The Refinery has five additional AMPs for which no data is being submitted: (1) The Crude Spent Caustic Drum was permanently shutdown, (2) The BT Recycle Hydrogen, which was part of the BT Platformer unit, was permanently shutdown in September 2005, (3) CCR Lockhopper Vent Gas which currently cannot physically be vented to the flare or fuel system, (4) Propylene Deethanizer off-gas, and (5) Alky Deethanizer off-gas were re-routed to a location that the refinery's fuel gas H2S analyzer will receive the streams.

All AMPs were obtained in accordance with the NSPS General Provisions (40 CFR §60.13(i)).

**Appendix C** – Data from cylinder gas audits performed on CEMS located on the exhaust of the B&W Boiler, SRU Thermal Oxidizer, East Plant H2S, West Plant H2S, FCCU Regenerator, and the Zurn Boiler. A Relative Accuracy Test Audit (RATA) was conducted on the Crude and Vacuum Heaters, CCR Charge Heater, and the FCC Charge Heater in September.

**Appendix D** – Excess Emission Report for the SRU Thermal Oxidizer SO2 and the FCCU Regenerator Opacity exceedences of 1% excess emissions.

In October 2009 MDEQ requested MRD conduct a Calibration Gas Audit (CGA) on the Zurn O2 analyzer. MRD's stance has been that this analyzer does not apply to Appendix F, including the CGA which is detailed in Section 5 of Appendix F. However, MRD agreed to begin conducting quarterly CGAs starting first quarter 2010. The CGAs were conducted on the Zurn O2 analyzer successfully in all quarters of 2010, First thru third Quarters of 2011; although, the oxygen cylinders used to conduct the CGAs were not EPA protocol gases. MRD does not feel this is a violation, since the rule is not applicable. MRD will continue to utilize the current oxygen cylinder unless directed differently by your office. In September 2011 a new Zurn CEMS was installed and a RATA was conducted. The new analyzer will be reported in fourth quarter report.

Please note, under the refinery's Title V permit in Table E-1.3, Section III.A.1 it indicates that quarterly cylinder gas audits of the FCCU opacity monitor are required; however, a quarterly cylinder gas audit program does not exist for this type of analyzer. The refinery is maintaining the analyzer according to the PTI 28-02A and completing a yearly audit of the analyzer. The refinery has requested a wording modification in the Title V renewal.

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information in Appendices A through D of this submittal is, to the best of my knowledge and belief, true, accurate, and complete. Please contact Tabetha Daum at (313) 297-4701 if you have any questions concerning this submittal.

Sincerely,

Marathon Petroleum Company LP

By: MPC Investment LLC, General Partner

Mr. C.T. Case, Deputy Assistant Secretary

#### Attachments

cc: Technical Programs Unit - MDNRE: AQD - c/o Karen Kajiya-Mills - Federal Express

Chief, Environmental Enforcement Section, Environment and Natural Resources Division, U.S. DOJ - Federal Express

U.S. EPA, Director of Air Enforcement Division c/o Matrix Environmental and Geotechnical-Federal Express

Air and Radiation Division, U.S. EPA Region 5 - Federal Express

Office of Regional Counsel, U.S. EPA Region 5 - Federal Express

## Appendix A

**CEMS Downtime and Excess Emissions Summary Reports** 

Pollutant: SO2 NOx CO CO2 O2 TRS H2S HC1 Opacity (Circle One)

Other: N/A

Reporting Quarter: Third 2011 Monitor Model: Limas 11 (NOx)

Facility: Marathon Petroleum Company LLC

1300 South Fort Street

Manufacturer: ABB

Detroit, MI 48217 Emission Limit: 0.20 lbs/MMBTU

Emission Unit: BW Boiler Average Time: daily average

Total Operating Hours of Emission Unit: 2032 hrs

Emission Data Summary		CEM Performance Summary	!			
. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation				
A. Startup/Shutdown	hrs	A. Monitor Malfunction     B. Non- Monitor Malfunction	0.00 hrs			
B. Control Equipment C. Process Problems	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	C. QA Calibration D. Other Known Causes	3.00 hrs 0.00 hrs			
<ul><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>		E. Unknown Causes	0.00hrs			
2. Total Duration	hrs	2. Total Duration	5.00hrs			
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.25%			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	(00)	CO2	02	TRS	H2S	HC1	Opacity	(Circle One)	l
Other:	N/A		<b></b>								
Reporting	Quarter:	Third	2011			Monit	or Model:	URAS 14	4 (CO)		
Facility: Marathon Petroleum Company LLC					Manufacturer: ABB						
			uth Fort Stre	eet	<del></del>	Emission Limit: 400 ppm					
		Detroit, N	AI 48217	<del>-</del>			ion cinic	-100 pp			
Emiss	sion Unit:	BW Boile	er (CO)			Aver	age Time	: daily ave	erage		
					Т	otal Opera	ating Hou	rs of Emi	ssion Unit	:2032_	hrs

Emission Data Summary		CEM Performance Summary				
1. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation				
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00     hrs       0.00     hrs       0.00     hrs       0.00     hrs       0.00     hrs	<ul> <li>A. Monitor Malfunction</li> <li>B. Non- Monitor Malfunction</li> <li>C. QA Calibration</li> <li>D. Other Known Causes</li> <li>E. Unknown Causes</li> </ul>	0.00         hrs           2.00         hrs           3.00         hrs           0.00         hrs           0.00         hrs			
Total Duration     Percent of Total Excess Emissions	0.00 hrs	Total Duration     Percent of Total CEM Downtime	5.00 hrs			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	со	CO2	(02)	TRS	H2S	HC1	Opacity	(Circle One)	
Other: _	N/A	<del> </del>	-								
Reporting	Quarter:	Third	2011			Monite	or Model:	Magnos	106 (O2)		
	Facility:	Marathor	n Petroleum	Compar	ıy LLC	Mani	ufacturer:	ABB			
	Facility: Marathon Petroleum Company LLC  1300 South Fort Street  Detroit, MI 48217						Emission Limit: none				
Emiss	sion Unit:	BW Boile	er (O2)		<u></u>	Aver	age Time	: none		<u> </u>	
					To	otal Opera	ating Hou	rs of Emi	ssion Unit	t: <u>2032</u>	hrs

Emission Data Summary		CEM Performance Summary			
Duration of Excess Emissions     A. Startup/Shutdown     B. Control Equipment     C. Process Problems	0.00 hrs 0.00 hrs 0.00 hrs	Duration of CEM Downtime During Some     A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes	0.00 hrs 2.00 hrs 3.00 hrs 0.00 hrs		
D. Other Known Causes E. Unknown Causes	0.00 hrs	E. Unknown Causes  2. Total Duration	0.00 hrs		
Total Duration     Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.25%		

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Opacity (Circle One) HC1 H2S CO<sub>2</sub> 02 TRS CO SO2 Pollutant: Other: N/A Monitor Model: Limas 11 (NOx) Reporting Quarter: Third 2011 Manufacturer: ABB Facility: Marathon Petroleum Company LLC 1300 South Fort Street Emission Limit: 123 ppm Detroit, MI 48217 Average Time: 7 day average Emission Limit: 93 ppm Emission Unit: FCCU Regenerator Average Time: 365 day average

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summary				
I. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation				
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes     E. Unknown Causes	0.00         hrs           0.00         hrs           15.00         hrs           0.00         hrs           0.00         hrs			
2. Total Duration	0.00hrs	2. Total Duration	15.00hrs			
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.68 %			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	co	CO2	02	TRS	H2S	HC1	Opacity	(Circle One)
Other:	N/A									
Reporting	Quarter:	Third	2011	•		Monit	or Model:	URAS 14	I (CO)	
	Facility:		Petroleum uth Fort Stre		y LLC	Manı	ufacturer:	ABB		
		Detroit, N			<del></del>	Emission Limit: 500 ppm				
		Detroit, i	711 HUZ 17			•	age Time:			
Emis	sion Unit:	FCCU R	egenerator	<del></del>	<u></u>	-				
					T	otal Opera	ating Hou	rs of Emi	ssion Unit	:2208hrs

Emission Data Summary		CEM Performance Summary				
A. Startup/Shutdown B. Control Equipment C. Process Problems D. Other Known Causes E. Unknown Causes		Duration of CEM Downtime During So     A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes     E. Unknown Causes	0.00 hrs 0.00 hrs 15.00 hrs 0.00 hrs 0.00 hrs			
Total Duration     Percent of Total Excess Emissions	5.00 hrs	Total Duration     Percent of Total CEM Downtime	hrs %			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	CO	CO2	(02)	TRS	H2S	HC1	Opacity	(Circle One)	
Other:	N/A										
Reporting	Quarter:	Third	2011			Monit	or Model:	Magnos	16 (O2)		
Facility: Marathon Petroleum Company LLC 1300 South Fort Street						Manufacturer: ABB					_
		Detroit, M		eet		•	ion Limit: age Time:				
Emis	sion Unit:	FCCU Re	egenerator		-F	-					
					T-	otal Opera	ating Hou	rs of Emi	ssion Unit	: <u>2208</u> hrs	

Emission Data Summary		CEM Performance Summary			
A. Startup/Shutdown B. Control Equipment C. Process Problems D. Other Known Causes E. Unknown Causes	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	Duration of CEM Downtime During S     A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes     E. Unknown Causes	0.00 hrs 0.00 hrs 15.00 hrs 0.00 hrs 0.00 hrs hrs 0.00 hrs		
2. Total Duration	hrs	2. Total Duration	15.00 hrs		
3. Percent of Total Excess Emissions	0.00%	3. Percent of Total CEM Downtime	0.68 %		

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Opacity (Circle One) HC1 Pollutant: NOx CO2 02 TRS H2S CO Other: N/A Monitor Model: Limas 11 (SO2) Reporting Quarter: Third 2011 Facility: Marathon Petroleum Company LLC Manufacturer: ABB 1300 South Fort Street Emission Limit: 70 ppm Detroit, MI 48217 Average Time: 7 day average Emission Unit: FCCU Regenerator Emission Limit: 35 ppm Average Time: 365 day average

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summary					
1. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation					
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	0.00hrs				
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00hrs				
C. Process Problems	0.00 hrs	C. QA Calibration	15.00hrs				
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00 hrs				
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00 hrs				
2. Total Duration	0.00hrs	2. Total Duration	15.00 hrs				
3. Percent of Total Excess Emissions	0.00%	3. Percent of Total CEM Downtime	0.68%				

(% Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

(% CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	со	CO2	02	TRS	H2S	HC1	Opacity (Circle One)		
Other:	N/A	Armen									
Reporting	Quarter:	Third	2011	_		Monito	or Model:	Lighthaw	/k 560		
Facility: Marathon Petroleum Company LLC					LLC	Manufacturer: Teledyne Monitor Labs					
		1300 Sou	th Fort Str	eet		<del></del>					
Detroit, MI 48217						Emission Limit: 20% opacity					
						Avera	ge Time:	6 minute	average		
Emiss	ion Unit:	FCCU Re	generator			_	-				

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		1. Duration of CEM Downtime During Source Operation					
1. Duration of Excess Emissions							
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	0.00 hrs				
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00 hrs				
C. Process Problems	45.30 hrs	C. QA Calibration	4.00 hrs				
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00hrs				
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00hrs				
2. Total Duration	45.30hrs	2. Total Duration	hrs				
3. Percent of Total Excess Emissions	2.05 %	3. Percent of Total CEM Downtime	0.18 %				

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x = 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	co	CO2	O2	TRS (H2S) HC1 Opacity (Circle One)
Other:	N/A	<del></del>				
Reporting	Quarter:	Third	2011	•		Monitor Model: 2000GC
				Company	LLC	Manufacturer: ABB
	-	1300 Sou Detroit, M	ith Fort Str II 48217	eet		Emission Limit: 162 ppm
Emis	sion Unit:	West Pla	int Fuel Ga	s NSPS H	eate <u>rs</u>	Average Time: 3 hour average
					To	otal Operating Hours of Emission Unit:2208hrs

Emission Data Summary		CEM Performance Summary				
Duration of Excess Emissions     A. Startup/Shutdown     B. Control Equipment     C. Process Problems     D. Other Known Causes	0.00 hrs 0.00 hrs 2.00 hrs 0.00 hrs	A. Monitor Malfunction B. Non- Monitor Malfunction C. QA Calibration D. Other Known Causes	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs			
E. Unknown Causes  2. Total Duration	0.00 hrs	E. Unknown Causes  2. Total Duration	9.00 hrs			
3. Percent of Total Excess Emissions	0.09 %	3. Percent of Total CEM Downtime	0.41 %			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	co	CO2	02	TRS (H2S) HC1 Opacity (Circle One)
Other: <u>l</u>	N/A	<u></u>				
Reporting	Quarter:	Third	2011	-		Monitor Model: 2000 Vista II
	Facility:		n Petroleun uth Fort Str		LLC	Manufacturer: ABB
		Detroit, N	/II 48217			Emission Limit: 162 ppm
						Average Time: 3 hour average
Emiss	ion Unit:	East Pla	nt Fuel Gas	NSPS He	aters	- ·
					Te	otal Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		1. Duration of CEM Downtime During Source Operation					
1. Duration of Excess Emissions							
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	48.00	_hrs			
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00	hrs			
C. Process Problems	5.00 hrs	C. QA Calibration	8.00	hrs			
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00	_ hrs			
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00	hrs			
2. Total Duration	5.00 hrs	2. Total Duration	56.00	_hrs			
3. Percent of Total Excess Emissions	0.23 %	3. Percent of Total CEM Downtime	2.54	_%			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Opacity (Circle One) HC1 02 TRS H2S CO2 SO2 NOx CO Pollutant: Other: N/A Monitor Model: ENDA-1120 Reporting Quarter: Third 2011 Manufacturer: Horiba Facility: Marathon Petroleum Company LLC 1300 South Fort Street Emission Limit: 0.2 lbs/MMBTU Detroit, MI 48217 Average Time: 24 hour average Emission Unit: Zurn Boiler Total Operating Hours of Emission Unit: 1125

Emission Data Summary		CEM Performance Summary				
Duration of Excess Emissions		Duration of CEM Downtime During Sc	ource Operation			
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes     E. Unknown Causes	16.00     hrs       0.00     hrs       3.00     hrs       6.00     hrs       0.00     hrs			
2. Total Duration	hrs	2. Total Duration	25.00 hrs			
3. Percent of Total Excess Emissions	0.00%	3. Percent of Total CEM Downtime	2.22%			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	CO	CO2	(02)	TRS	H2S	HC1	Opacity	(Circle One)	
Other: <u>l</u>	N/A		-								
Reporting	Quarter:	Third	2011			Monit	or Model:	ZA8			
	Facility:	Marathor	Petroleum	Compa	ny LLC	Manı	ufacturer:	Yokagov	/a		
		1300 Sou	th Fort Stre	et	-4-7						
		Detroit, N	11 48217			Emiss	ion Limit:	none			
						Avera	age Time:	none			
Emiss	ion Unit:	Zurn Boil	er								
					To	tal Opera	iting Hour	s of Emi	ssion Unit	: <u>1125</u> hrs	3

Emission Data Summary		CEM Performance Summar	у			
1. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation				
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	A. Monitor Malfunction B. Non- Monitor Malfunction C. QA Calibration D. Other Known Causes E. Unknown Causes	16.00 hrs 0.00 hrs 3.00 hrs 6.00 hrs 0.00 hrs			
Total Duration     Percent of Total Excess Emissions	0.00 hrs	Total Duration     Percent of Total CEM Downtime	25.00 hrs			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Opacity (Circle One) CO<sub>2</sub> 02 **TRS** H2S HC1 Pollutant: SO2 NOx CO Other: N/A Monitor Model: LIMAS-11-UV Reporting Quarter: Third 2011 Facility: Marathon Petroleum Company LLC Manufacturer: ABB Advance Optima 1300 South Fort Street Detroit, MI 48217 Emission Limit: 250 ppm Average Time: 12 hour average

Emission Unit: Sulfur Recovery Unit Thermal Oxidizer

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summary					
1. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation					
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	6.00hrs				
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00 hrs				
C. Process Problems	35.00 hrs	C. QA Calibration	8.00hrs				
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00hrs				
E. Unknown Causes	hrs	E. Unknown Causes	0.00 hrs				
2. Total Duration	35.00 hrs	2. Total Duration	14.00 hrs				
3. Percent of Total Excess Emissions	1.59%	3. Percent of Total CEM Downtime	0.63%				

(% Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

(% CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	со	CO2	<u>O2</u>	TRS	H2S	HC1	Opacity	(Circle One)
Other: N/	Α		-							
Reporting Q	uarter: _	Third	2011			Monito	or Model:	MAGNOS	S 106/206	
F	acility:	Marathon	Petroleum	Compar	ny LLC	Manu	facturer:	ABB Adv	ance Optir	na
			ith Fort Stre							
	-	Detroit, N	11 48217			Emission Limit: none				
	_					Avera	ge Time:	none		
Emissio	n Unit: j	Sulfur Re	ecovery Uni	t Therma	I Oxidizer					
					То	tal Opera	ting Hour	s of Emis	sion Unit	: <u>2208</u> hrs

Emission Data Summary		1. Duration of CEM Downtime During Source Operation				
1. Duration of Excess Emissions						
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes     E. Unknown Causes	6.00 hrs 0.00 hrs 8.00 hrs 0.00 hrs 0.00 hrs			
Total Duration     Percent of Total Excess Emissions	hrs	Total Duration     Percent of Total CEM Downtime	14.00 hrs			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Poliutant:	SO2	NOx	CO	CO2	O2	TRS	H2\$	HC1	Opacity	(Circle One)	
Other: N/A	<b>A</b>	<u> </u>	_								
Reporting Qu	uarter: _	Third	2011			Monite	or Model:	URAS 14	(CO)		
F	acility: <u>N</u>	Marathor	Petroleum	Company	LLC	Manı	ufacturer:	ABB			
	1	300 Soi	uth Fort Stre	et	****						
		Detroit. N	/! 48217			Emiss	ion Limit:	400 ppm			
	_					Avera	age Time:	daily ave	rage		
Emissio	n Unit: <u>(</u>	CCR Ch	arge Heater	(CO)							
					To	tal Opera	ating Hou	rs of Emi	ssion Unit	2208	hrs

1. Duration of CEM Downtime During Source Operation		
Duration	0.00	hrs
	ent of Total CEM Downtime	

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	СО	CO2	<u>O2</u>	TRS	H2S	HC1	Opacity	(Circle One)	
Other: _	N/A										
Reporting	Quarter:	Third	2011	-		Monito	or Model:	Magnos	106 (O2)		
	Facility:	Marathon	Petroleun th Fort Str	n Compa eet	ny LLC		ıfacturer:				
		Detroit, M					ion Limit: age Time:	-			
Emiss	sion Unit:	CCR Cha	rge Heate	r (O2)							
					To	tal Opera	iting Hou	rs of Emi	ssion Unit	:: <u>2208</u> hr	S

Emission Data Summary		CEM Performance Summary		
Duration of Excess Emissions		1. Duration of CEM Downtime During S	ource Operation	
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	A. Monitor Malfunction     B. Non- Monitor Malfunction     C. QA Calibration     D. Other Known Causes     E. Unknown Causes	0.00         hrs           0.00         hrs           0.00         hrs           0.00         hrs           0.00         hrs	
2. Total Duration	0.00 hrs	2. Total Duration	0.00 hrs	
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.00%	

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	(00)	CO2	O2	TRS	H2S	HC1	Opacity	(Circle One)	
Other: <u>1</u>	N/A		_								
Reporting	Quarter: _	Third	2011			Monito	or Model:	URAS 14	I (CO)		<u></u>
	Facility:	Marathor	n Petroleum (	Company	LLC	Manu	ıfacturer:	ABB			
		1300 So	uth Fort Stree	et							
	-	Detroit. N	/II 48217			Emissi	on Limit:	400 ppm		· · · · · · · · · · · · · · · · · · ·	
	•	<del></del>			•	Avera	ıge Time:	1 hour a	verage		
Emiss	ion Unit:	FCCU C	harge Heate	<u>r</u>	•						
					To	tal Opera	ting Hou	rs of Emi	ssion Unit	: 2208	hrs

Emission Data Summary		CEM Performance Summary				
1. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation				
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	0.00hrs			
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00 hrs			
C. Process Problems	0.00 hrs	C. QA Calibration	3.00hrs			
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00hrs			
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00hrs			
2. Total Duration	0.00 hrs	2. Total Duration	hrs			
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.14 %			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	co	CO2	(02)	TRS	H2S	HC1	Opacity	(Circle One)	
Other: <u>l</u>	N/A		-								
Reporting	Quarter:	Third	2011			Monit	or Model:	Magnos	106 (O2)	- A	
	Facility:		Petroleum		ny LLC	Man	ufacturer:	ABB			
			uth Fort Str	eet		Emiss	ion limite	nono			
		Detroit, N	/II 46217				ion Limit: age Time:				
Emiss	ion Unit:	FCCU C	harge Heat	er							
					To	tal Opera	ating Hour	s of Emis	sion Unit	: 2208 hrs	

Emission Data Summary		CEM Performance Summary  1. Duration of CEM Downtime During Source Operation			
1. Duration of Excess Emissions					
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	0.00 hrs		
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00 hrs		
C. Process Problems	0.00 hrs	C. QA Calibration	3.00 hrs		
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00 hrs		
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00hrs		
2. Total Duration	0.00hrs	2. Total Duration	3.00 hrs		
3. Percent of Total Excess Emissions	0.00%	3. Percent of Total CEM Downtime	0.14 %		

(% Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

(% CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Opacity (Circle One) CO CO<sub>2</sub> 02 TRS H<sub>2</sub>S HC1 Pollutant: **SO2** Other: N/A Reporting Quarter: Third 2011 Monitor Model: Limas 11 (NOx) Manufacturer: ABB Facility: Marathon Petroleum Company LLC 1300 South Fort Street Emission Limit: 0.05 lbs/MMBTU Detroit, MI 48217 Average Time: annual rolling average Emission Unit: Crude/Vacuum Charge Heater

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summary				
1. Duration of Excess Emissions		Duration of CEM Downtime During Source Operation				
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	31.00hrs			
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00 hrs			
C. Process Problems	0.00 hrs	C. QA Calibration	2.00 hrs			
D. Other Known Causes	0.00 hrs	D. Other Known Causes	0.00 hrs			
E. Unknown Causes	<u>0.00</u> hrs	E. Unknown Causes	0.00 hrs			
2. Total Duration	0.00 hrs	2. Total Duration	33.00 hrs			
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	1.49%			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	CO	CO2	(02)	TRS	H2S	HC1	Opacity	(Circle One)
Other: _	N/A									
Reporting	Quarter:	Third	2011			Monit	or Model:	Magnos	106 (O2)	
	Facility:	Marathon	Petroleum	Compar	ny LLC	Mani	ufacturer:	ABB		
		1300 Sot	ith Fort Stre	et						
	_	Detroit, M	11 48217			Emiss	ion Limit:	none		
	_					Aver	age Time:	none		-12-
Emiss	ion Unit:	Crude/Va	cuum Char	ge Heat	er (O2)					
					То	tal Opera	ating Hour	s of Emis	ssion Unit	: <u>2208</u> hrs

Emission Data Summary		CEM Performance Summary				
1. Duration of Excess Emissions	•	Duration of CEM Downtime During Source Operation				
<ul><li>A. Startup/Shutdown</li><li>B. Control Equipment</li><li>C. Process Problems</li><li>D. Other Known Causes</li><li>E. Unknown Causes</li></ul>	0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs 0.00 hrs	A. Monitor Malfunction B. Non- Monitor Malfunction C. QA Calibration D. Other Known Causes E. Unknown Causes	31.00 hrs 0.00 hrs 2.00 hrs 0.00 hrs 0.00 hrs			
Total Duration     Percent of Total Excess Emissions	0.00 hrs	Total Duration     Percent of Total CEM Downtime	33.00 hrs			

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant: SO2 NOx CO CO2 02 TRS H2S HC1 Opacity (Circle One) Other: Flare Pilot Reporting Quarter: Third 2011 Monitor Model: SLX-202 Facility: Marathon Petroleum Company LLC Manufacturer: Powertrol 1300 South Fort Street Detroit, MI 48217 Emission Limit: Pilot Light Present Average Time: continuously Emission Unit: Vents to CP Flare

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summary				
Duration of Excess Emissions		Duration of CEM Downtime During Se	ource Opera	tion		
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	0.00	hrs		
<ul><li>B. Control Equipment</li></ul>	0.00 hrs	B. Non- Monitor Malfunction	0.00	hrs		
C. Process Problems	0.00hrs	C. QA Calibration	0.00	hrs		
D. Other Known Causes	0.00 hrs	D. Other Known Causes*	0.00	hrs		
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00	hrs		
2. Total Duration	0.00hrs	2. Total Duration	0.00	hrs		
3. Percent of Total Excess Emissions	0.00%	3. Percent of Total CEM Downtime	0.00	_%		

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

<sup>\*</sup>Other Known Causes: Hours in this category are attributed to weather, including rain and snow, as well as fog from cooling tower operation interfering with the sight of the analyzer. Visual checks verified a pilot was present.

Pollutant: SO<sub>2</sub> NOx CO CO<sub>2</sub> 02 TRS H<sub>2</sub>S HC1 Opacity (Circle One) Other: Flare Pilot Reporting Quarter: \_\_Third\_ 2011 Monitor Model: SLX-202 Facility: Marathon Petroleum Company LLC Manufacturer: Powertroi 1300 South Fort Street Detroit, MI 48217 Emission Limit: Pilot Light Present Average Time: continuously Emission Unit: Vents to Alkylation Unit Flare

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		1. Duration of CEM Downtime During Source Operation				
1. Duration of Excess Emissions						
A. Startup/Shutdown	0.00hrs	A. Monitor Malfunction	0.00	hrs		
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00	— hrs		
C. Process Problems	0.00 hrs	C. QA Calibration	0.00	hrs		
D. Other Known Causes	0.00hrs	D. Other Known Causes*	0.00	— hrs		
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00	_ hrs		
2. Total Duration	0.00 hrs	2. Total Duration	0.00	hrs		
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.00	_%		

- (% Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%
- (% CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

If there were no exceedences, the required analyses were made and no CEM downtime and/or excess emissions occurred during the reporting period.

\*Other Known Causes: Hours in this category are attributed to weather, including rain and snow, as well as fog from cooling tower operation interfering with the sight of the analyzer. Visual checks verified a pilot was present.

Pollutant: SO2 NOx CO CO2 O2 TRS H2S HC1 Opacity (Circle One)

Other: Flare Pilot

Reporting Quarter: Third 2011 Monitor Model: SLX-202

Facility: Marathon Petroleum Company LLC Manufacturer: Powertrol

1300 South Fort Street

Detroit, MI 48217

Emission Limit: Pilot Light Present

Average Time: continuously

Emission Unit: Vents to Unifiner Flare

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summary				
1. Duration of Excess Emissions		1. Duration of CEM Downtime During So	ource Opera	tion		
A. Startup/Shutdown	0,00 hrs	A. Monitor Malfunction	0.00	hrs		
B. Control Equipment	0,00hrs	B. Non- Monitor Malfunction	1.00	hrs		
C. Process Problems	0.00 hrs	C. QA Calibration	0.00	hrs		
D. Other Known Causes	0.00hrs	D. Other Known Causes*	0.00	hrs		
E. Unknown Causes	0.00hrs	E. Unknown Causes	0.00	hrs		
2. Total Duration	0.00 hrs	2. Total Duration	1.00	hrs		
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.05	_%		

<sup>(%</sup> Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%

If there were no exceedences, the required analyses were made and no CEM downtime and/or excess emissions occurred during the reporting period.

\*Other Known Causes: Hours in this category are attributed to weather, including rain and snow, as well as fog from cooling tower operation interfering with the sight of the analyzer. Visual checks verified a pilot was present.

<sup>(%</sup> CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

Pollutant:	SO2	NOx	CO	CO2	O2	TRS	H2S	HC1	Opacity	(Circle One)
Other: i	Flare Pilo	t								
Reporting	Quarter:	Third	2011	-		Monite	or Model:	SLX-202		
	Facility:			Company	LLC	Manu	afacturer:	Powertro	<u> </u>	
		1300 Sout	th Fort Str	eet		_				
		Detroit, M	l 48217			Emissi	ion Limit:	Pilot Ligh	t Present	
		· · · · · · · · · · · · · · · · · · ·				Avera	ige Time:	continuo	ıslv	
Emiss	ion Unit:	Vents to C	Crude Flar	е	······	-				

Total Operating Hours of Emission Unit: 2208 hrs

Emission Data Summary		CEM Performance Summar	у
1. Duration of Excess Emissions		Duration of CEM Downtime During S	ource Operation
A. Startup/Shutdown	0.00 hrs	A. Monitor Malfunction	5.00 hrs
B. Control Equipment	0.00 hrs	B. Non- Monitor Malfunction	0.00 hrs
C. Process Problems	0.00hrs	C. QA Calibration	0.00 hrs
D. Other Known Causes	0.00hrs	D. Other Known Causes*	0.00 hrs
E. Unknown Causes	0.00 hrs	E. Unknown Causes	0.00 hrs
2. Total Duration	0.00 hrs	2. Total Duration	5.00 hrs
3. Percent of Total Excess Emissions	0.00 %	3. Percent of Total CEM Downtime	0.23%

- (% Total excess emissions) = (Total duration of excess emissions) / (Total operating time) x 100%
- (% CEM downtime) = (Total duration of CEM downtime) / (Total operating time) x 100%

If there were no exceedences, the required analyses were made and no CEM downtime and/or excess emissions occurred during the reporting period.

\*Other Known Causes: Hours in this category are attributed to weather, including rain and snow, as well as fog from cooling tower operation interfering with the sight of the analyzer. Visual checks verified a pilot was present.

## Appendix B

## New Source Performance Standards (NSPS) Subpart J Alternate Monitoring Plan (AMP) Data

## Alternative Monitoring Plan Data

Date	Alky Spent Caustic H2S ppm When flaring	CCR/SR Recycle H2 H2S ppm 2 x year	DHT/Unifiner Recycle H2 H2S ppm 5 x week
7/1/2011		<1	<1
7/2/2011		<1	10
7/3/2011		<1	30
7/4/2011		<1	30
7/5/2011		<1	20
7/6/2011		<1	<1
7/7/2011		<1	<1
7/8/2011		<1	30
7/9/2011		<1	3
7/10/2011		<1	20
7/11/2011		<1	20
7/12/2011		<1	30
7/13/2011		<1	<1
7/14/2011		<1	<1
7/15/2011		<1	<1
7/16/2011		<1	<1
7/17/2011		<1	10
7/18/2011		<1	<1
7/19/2011		<1	<1
7/20/2011		<1	<1
7/21/2011		<1	<1
7/22/2011		<1	<1
7/23/2011		<1	<1
7/24/2011		<1	<1
7/25/2011		<1	<1
7/26/2011		<1	6
7/27/2011		<1	<1
7/28/2011		<1	<1
7/29/2011		<1	10
7/30/2011		<1	
7/31/2011		<1	
8/1/2011		<1	~-
8/2/2011		<1	
8/3/2011	0	<1	<1
8/4/2011	0	<1	<1
8/5/2011	0	<1	<1
8/6/2011		<1	<1
8/7/2011		<1	<1
8/8/2011		<1	<1
8/9/2011		<1	<1
8/10/2011		<1	<1
8/11/2011		<1	<1
8/12/2011		<1	<1
8/13/2011		<1	<1
8/14/2011		<1	<1
8/15/2011		<1	<1
8/16/2011		<1	<1
8/17/2011		<1	<1
8/18/2011		<1	<1
8/19/2011		<1	<1
8/20/2011		<1	<1

## Alternative Monitoring Plan Data

Date	Alky Spent Caustic H2S ppm When flaring	CCR/SR Recycle H2 H2S ppm 2 x year	DHT/Unifiner Recycle H2 H2S ppm 5 x week
8/21/2011		<1	<1
8/22/2011		<1	<1
8/23/2011		<1	<1
8/24/2011		<1	- <1
8/25/2011		<1	<1
8/26/2011		Unit Down	<1
8/27/2011		Unit Down	<1
8/28/2011		Unit Down	<1
8/29/2011		Unit Down	<1
8/30/2011		<1	<1
8/31/2011	0	<1	<1
9/1/2011		15	<1
9/2/2011		5	<1
9/3/2011		<1	<1
9/4/2011		<1	<1
9/5/2011		<1	<1
9/6/2011		<1	<1
9/7/2011		<1	<1
9/8/2011		<1	<1
9/9/2011		<1	Unit Down
9/10/2011		<1	<1
9/11/2011		<1	<1
9/12/2011		<1	<1
9/13/2011	•	<1	<1
9/14/2011		<1	<1
9/15/2011		<1	<1
9/16/2011		<1	<1
9/17/2011		<1	<1
9/18/2011		<1	<1
9/19/2011		<1	<1
9/20/2011		<1	<1
9/21/2011		<1	<1
9/22/2011		<1	<1
9/23/2011		<1	<1
9/24/2011		<1	<1
9/25/2011		<1	<1
9/26/2011		<1	<1
9/27/2011		<1	<1
9/28/2011		<1	<1
9/29/2011		<1	<1
9/30/2011		<1	<1

Most	•			Most		Most	
Recent		Most Recent	CP Spent Caustic	Recent	<b>SR</b> Aromatics	Recent	
Sample	FCCU Disulfide	Sample	Drum Vent	Sample	Sump Vent H2S	Sample	CCR Chlorsorb
Dates	off-gas H2S ppm	Dates	H2S ppm	Dates	ppm	Dates	Vent SO2 ppm
	2 x year		2 x year		2 x year		2 x year
5/4/2011	0	5/5/2011	0	6/30/2011	0	6/29/2011	Ó
7/5/2011	0	7/5/2011	0	9/21/2011	0	9/21/2011	0
Dates 5/4/2011	off-gas H2S ppm	Dates 5/5/2011	H2S ppm	Dates 6/30/2011	ppm 2 x year	Dates 6/29/2011	Vent SO2 ppm

# Appendix C Cylinder Gas Audit Information

## Cylinder Gas Audit (CGA) Datasheet Marathon Petroleum Company LP - Michigan Refining Division

Analyzer: East Plant Fuel Gas

Analyzer: West Plant Fuel Gas

Analyzer Manufacturer: ABB

Analyzer Manufacturer: ABB

Analyzer model #'s: 2000 VISTA II

Analyzer model #'s: 2000GC

Constituents monitored

**Constituents monitored** 

(w/ranges): H2S (0-300)

(w/ranges): H2S (0-300)

Date CGA performed: 7/21/2011

Date CGA performed:

7/26/2011

Performed by: Eric Justa and Doug Pek

Performed by: Eric Justa and Bryan Longtine

Calibration gases used:

					Certified	· ·
MAP stock #	Constituent	low- or mid-	Cylinder#	Exp date	concentration	Units
76-188-017	H2S	low	EB0028210	02/22/12	76.6	ppm
76-188-019	H2S	mid	EB0024602	11/09/11	162	ppm

#### **East Plant Fuel Gas**

#### **West Plant Fuel Gas** Low-level CGA:

Low-leve	I CC	ìΑ:
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Start time	End time	H2S	
10:31	10:36	68.8	
10:36	10:41	68.7	
10:41	10:46	68.6	
Ave	rage	68.7	
Cal ga	Cal gas value		
CGA a	CGA accuracy		

LOW-level COA.				
Start time	End time	H2S		
10:52	10:56	73.9		
10:56	11:00	72.5		
11:00	11:05	73.2		
Ave	Average			
Cal ga	76.6			
CGA a	4.5%			

#### Mid-level CGA:

#### Mid-level CGA:

Start time	End time	H2S	
10:51	10:56	151.5	
10:56	11:01	151.1	
11:01	11:06	151.8	
Ave	age	151.5	
Cal gas	Cal gas value		
CGA ad	6.5%		

Start time	End time	H2S	
11:05	11:09	158	
11:09	11:12	159	
11:12	11:16	160	
Ave	Average		
Cal ga	Cal gas value		
CGA a	CGA accuracy		

# Cylinder Gas Audit (CGA) Datasheet Marathon Petroleum Company LP - Michigan Refining Division

Analyzer: Zurn Boiler NOx and O2

Analyzer Manufacturer: Horiba (NOx) and Yokagowa (O2)

Analyzer model #'s: ENDA-1120 (NOx) and ZA8 (O2)

Constituents monitored (w/ranges): NOx (0-500) O2 (0-10%)

Calibration gases used:

		low- or			Certified	
MAP stock #	Constituent	mid-	Cylinder#	Exp date	concentration	Units
76-188-232	NO	low	EB0025464	02/02/13	120	ppm
76-188-219	02	low	109-06-03330	05/27/12	2.00	%
76-188-231	NO	mid	EB0025358	10/08/12	270	ppm
76-188-215	O2	mid	MA116181	01/20/14	8.00	%

#### **NOx Analyzer**

Date CGA performed: 9/13/2011

Performed by: Doug Pek and Eric Justa

Low-level CGA:

Start time	End time	NO	
9:42	9:51	118	
9:51	10:00	118	
10:00	10:09	118	
Avera	118		
Cal gas	120.0		
CGA ac	CGA accuracy		

Mid-level CGA:

Start time	End time	NO	
10:09	10:18	268	
10:18	10:27	268	
10:27	10:36	268	
Avera	Average		
Cal gas v	Cal gas value		
CGA acc	CGA accuracy		

#### O2 Analyzer

Date CGA performed: 9/13/2011

Performed by: Doug Pek and Eric Justa

Low-level CGA:

Start time	End time	O2
11:08	11:09	1.92
11:09	11:10	1.92
11:10	11:11	1.92
Aver	age	1.92
Cal gas	value	2.00
CGA ac	curacy	4.0%

Mid-level CGA:

Start time	End time	O2
11:12	11:13	8.13
11:13	11:14	8.15
11:14	11:15	8.14
Aver	age	8.14
Cal gas	value	8.00
CGA ac	curacy	1.8%

## Cylinder Gas Audit (CGA) Datasheet Marathon Petroleum Company LP - Michigan Refining Division

Analyzer: B&W Boiler CEMS

Analyzer Manufacturer: ABB

Analyzer model #'s: Limas 11 (NOx), Magnos 106 (O2), Uras 14 (CO)

Constituents monitored (w/ranges): NOx (0-500), CO (0-500), O2 (0-10%)

Date CGA performed: 7/12/2011

Performed by: Doug Pek and Eric Justa

Calibration gases used:

MAP stock #	Constituent	low- or mid-	Cylinder #	Exp date	Certified concentration	Units
76-188-232	NO	low	CC320264	01/08/12	128	ppm
76-188-232	CO	low	CC320264	01/08/12	125	ppm
76-188-219	O2	low	CC275906	04/04/14	5.54	%
	NO NO	mid	EB0029228	03/30/13	269	ppm
76-188-231	CO	mid	EB0029228	03/30/13	274	ppm
76-188-231		mid	EB003822	06/17/12	8.99	%
76-188-215	O2	IRIU	LUCOOUZE	1 00,, 12		

Low-level CGA:

v-level CGA: Start time	End time	NO	CO	02
9:41	9:53	126.6	125	5.54
9:53	10:05	126.4	125	5.54
10:05	10:17	126.4	125	5.54
Average		126.5	125	5.54
Cal gas value		128.0	125	5.54
CGA accuracy		1.2%	0.2%	0.0%

High-level CGA:

h-level CGA: Start time	End time	NO	CO	02
10:17	10:30	269.5	274	8.97
10:30	10:42	269.5	274	8.97
10:42	10:54	269.5	274	8.97
Average		269.5	274	8.97
Cal gas value		269.0	274	8.99
CGA accuracy		0.2%	0.0%	0.2%

# Cylinder Gas Audit (CGA) Datasheet Marathon Petroleum Company LLC - Michigan Refining Division

Analyzer: FCCU Regenerator exhaust CEMS

Analyzer Manufacturer: ABB

Analyzer model #'s: Limas 11 (SO2/NOx), Magnos 106 (O2), Uras 14 (CO/CO2)

Constituents monitored (w/ranges): SO2 (0-200), NOx (0-200), CO (0-1000), CO2 (0-20%), O2 (0-10%)

Date CGA performed: 8/30/2011

Performed by: Doug Pek and Eric Justa

Calibration gases used:

MAP stock #	Constituent	low- or mid-	Cylinder#	Exp date	Certified concentration	Units	
76-188-218	SO2	low			47.7	ppm	
76-188-218	NO	low	EB0014006	ED0044000 44/45/43	49.6	ppm	
76-188-218	CO	low		1 EBUU 14000   11/15/	11/15/13	247	ppm
76-188-218	CO2	low			6.53	%	
76-188-219	O2	low	SG9110902	09/07/13	5.52	%	
76-188-213	SO2	mid			111	ppm	
76-188-213	NO	mid	EB0026259	6/10/13	115	ppm	
76-188-213	CO	mid	- EB0026259   6/10/	ED0020209   0/10/13	543	ppm	
76-188-213	CO2	mid			12.2	%	
76-188-215	O2	mid	EB0003622	06/17/12	8.99	%	
76-188-215	NO2	mid	7 ED0003022	00/1//12	94.7	ppm	

#### Low-level CGA:

Start time	End time	SO2	NO	СО	CO2	O2
10:13	10:27	44	54.7	255	6.72	5.55
10:27	10:40	40	53.7	255	6.73	5.55
10:40	10:54	43	52	256	6.75	5.55
· · · · · · · · · · · · · · · · · · ·	rage	42	53	255	6.73	5.55
Cal gas value		47.7	49.6	247.0	6.53	5.52
CGA accuracy		11.3%	7.8%	3.4%	3.1%	0.5%

#### Mid-level CGA:

Start time	End time	SO2	NO	CO	CO2	02
10:54	11:06	110	115	545	12.2	9.02
11:06	11:19	110	115	545	12.2	9.03
11:19	11:32	112	115	545	12.2	9.03
	rage	111	115	545	12.2	9.03
Cal gas value		111	115.0	543	12.2	8.99
CGA accuracy		0.3%	0.0%	0.4%	0.0%	0.4%

### Cylinder Gas Audit (CGA) Datasheet Marathon Petroleum Company LP - Michigan Refining Division

Analyzer: SRU Thermal Oxidizer SO2

Analyzer Manufacturer: ABB Advance Optima

Analyzer model #'s: LIMAS-11-UV (SO2) and MAGNOS 106/206 (O2)

Constituents monitored (w/ranges): SO2 (0-500) O2 (0-10%)

Date CGA performed:

9/23/2011

Performed by: Doug Pek and Glen Senczyszyn

Calibration gases used:

MAP stock #	Constituent	low- or mid-	Cylinder#	Exp date	Certified concentration	Units
76-188-232	SO2	low	EB0027779	01/31/13	129.0	ppm
76-188-219	O2	low	EB0027779	01/31/13	5.50	%
76-188-231	SO2	mid	CC316237	01/31/13	279	ppm
76-188-215	O2	mid	CC316237	01/31/13	9.01	%

#### Low-level CGA:

Start time	End time	SO2	O2
19:01	19:02	127.4	5.56
19:02	19:03	127.4	5.56
19:03	19:04	127.3	5.56
Ave	rage	127.4	5.56
Cal ga	s value	129	5.5
CGA a	ccuracy	1.3%	1.1%

#### Mid-level CGA:

Start time	End time	SO2	O2
19:34	19:35	269.8	9.03
19:35	19:36	270.2	9.03
19:36	19:37	271.4	9.03
Ave	rage	270.5	9.03
Cal ga	is value	279	9.0
CGA a	ccuracy	3.1%	0.2%

### Appendix D

### **Excess Emission Report**

SRU Thermal Oxidizer

SKU i nermai Oxidize		Duration of		Emissions (ppm 12		
Start Date/Time*	End Date/Time*	Downtime (hrs)	Equipment	hr ave)**	Cause	Corrective Action
07/03 16:05	07/03 17:05	1 hrs	SRU	252		
07/03 17:05	07/03 18:05	1 hrs	SRU	258		
07/03 18:05	07/03 19:05	1 hrs	SRU	262		
07/03 19:05	07/03 20:05	1 hrs	SRU	264	On 7/5/2011 the FCCU Regenerator inadvertently	
07/03 20:05	07/03 21:05	1 hrs	SRU	265	tripped off line while conducting preventative	The refinery responded to the upset issues and stabilized the
07/03 21:05	07/03 22:05	1 hrs	SRU	266	maintenance on the back up power to the emergency	operation of the units. The Startup, Shutdown, and Malfunction
07/03 22:05	07/03 23:05	1 hrs	SRU	266	shutdown system in the Gas Con Unit.	(SSM) Plan was followed properly per the MACT rules.
07/03 23:05	07/04 00:05	1 hrs	SRU	269		
07/04 00:05	07/04 01:05	1 hrs	SRU	268		
07/04 01:05	07/04 02:05	1 hrs	SRU	254		
08/25 10:05	08/25 11:05	1 hrs	SRU	263		
08/25 11:05	08/25 12:05	1 hrs	SRU	317		
08/25 12:05	08/25 13:05	1 hrs	SRU	362		
08/25 13:05	08/25 14:05	l hrs	SRU	427		Upon initial review, consistent with EPA's Startup Shutdown
08/25 14:05	08/25 15:05	1 hrs	SRU	497		Malfunction (SSM) policy, this event qualifies for the NSPS SSM exemption as provided in 40 CFR 60.8. Specifically, events not caused by poor operation, maintenance, or design of process or control equipment are exempt from the NSPS limits provided that the emissions were minimized consistent with good air pollution
08/25 15:05	08/25 16:05	1 hrs	SRU	557		
08/25 16:05	08/25 17:05	1 hrs	SRU	620		
08/25 17:05	08/25 18:05	1 hrs	SRU	682		
08/25 18:05	08/25 19:05	1 hrs	SRU	720	At 6:20 AM on August 25, 2011, a lighting strike hit	
08/25 19:05	08/25 20:05	1 hrs	SRU	743	ITC structure 3001 which is approximately 4 miles	control practices and repairs were made in an expeditious fashion.
08/25 20:05	08/25 21:05	1 hrs	SRU	798	from the refinery. The lightning strike caused all three	In this case, the emission event was caused by a lightning strike and
08/25 21:05	08/25 22:05	I hrs	SRU	826	phases of the 120 KV line to be felled to ground	a subsequent external power failure beyond MPC's control, MPC
08/25 22:05	08/25 23:05	1 hrs	SRU	841	resulting in the loss of Detroit Edison's (DTE's)	took immediate action to minimize emissions by shutting down the
08/25 23:05	08/26 00;05	1 brs	SRU	848	Transformer #102 in Ironton and a lockout of bus 102	
08/26 00:05	08/26 01:05	1 hrs	SRU	864	at their Ironton Substation. As a result of the lightning	refinery operations with the exception of the FCCU. The FCCU
08/26 01:05	08/26 02:05	1 hrs	SRU	813	strike and resulting external power failure, the Refinery	emissions were minimized by reducing rate which in turn avoided
08/26 02:05	08/26 03:05	I hrs	SRU	750	shut down its operations and stabilized units.	any excess emissions that would have resulted from a subsequent
08/26 03:05	08/26 04:05	1 hrs	SRU	696	-	FCCU startup. Furthermore, the steam produced by the FCCU
08/26 04:05	08/26 05:05	1 hrs	SRU	638		ensured good flare combustion. Finally, crews worked through the
08/26 05:05	08/26 06:05	1 hrs	SRU	582		night to ensure that the damaged boiler was expeditiously repaired
08/26 06:05	08/26 07:05	1 hrs	SRU	527		and returned to service producing steam for the flares and the safe
08/26 07:05	08/26 08:05	1 hrs	SRU	470	i	startup of the process units.
08/26 08:05	08/26 09:05	1 hrs	SRU	411		
08/26 09:05	08/26 10:05	1 hrs	SRU	353		
08/26 10:05	08/26 11:05	1 hrs	SRU	295		

Total 35 hrs

Operating Hours % Excess Emissions 2208 1.59

<sup>\*</sup>The start time and end time are approximate.

\*\*Emission limit is 250 ppm SO2 (12 hour average)

FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equipment	Opacity (>20%)**	Cause	Corrective Action
07/05 12:53	07/05 12:59	<del> </del>	FCCU Opacity	43		
07/05 12:59	07/05 13:05	1 1	FCCU Opacity	23	1	
07/05 13:05	07/05 13:11	1	FCCU Opacity	28		
07/05 [3:1]	07/05 13:17	i	FCCU Opacity	59	-	
07/05 13:17	07/05 13:17 07/05 13:23	1	FCCU Opacity	37	7	
07/05 13:23	07/05 13:29	1	FCCU Opacity	34	1	
07/05 13:29	07/05 13:35	1	FCCU Opacity	28	7	
07/05 13:35	07/05 13:41	1	FCCU Opacity	26	1	
07/05 13:41	07/05 [3:47	1	FCCU Opacity	24		
07/05 13:47 07/05 13:53	07/05 13:53	1	FCCU Opacity FCCU Opacity	25		
07/05 14:05	07/05 13:59 07/05 14:11		FCCU Opacity	24		
07/05 14:03	07/05 14:11	1	FCCU Opacity FCCU Opacity	24		
07/05 14:17	07/05 14:17	- 1	FCCU Opacity FCCU Opacity	22	4	
07/05 14:23	07/05 14:25	<del> </del>	FCCU Opacity FCCU Opacity	23		
07/05 14:29	07/05 14:29 07/05 14:35		CCU Opacity	23		
07/05 14:35	07/05 14:41	1 1	FCCU Opacity FCCU Opacity FCCU Opacity	22		
07/05 14:41	07/05 14:47	<del></del>	FCCU Opacity	24		
07/05 14:47	07/05 14:53	î	FCCU Opacity	27	On 7/5/2011 the FCCU Regenerator inadvertently	The refines company of the state of the stat
07/05 14:53	07/05 14:59	1 1	FCCU Opacity	26 25	tripped off line while conducting preventative	The refinery responded to the upset issues and stabilized
07/05 14:59	07/05 15:05	ì	FCCU Opacity	22	maintenance on the back up power to the emergency	operation of the units. The Startup, Shutdown, and Malfun
07/05 16:11	07/05 16:17	i	FCCU Opacity FCCU Opacity	36	shutdown system in the Gas Con Unit.	(SSM) Plan was followed properly per the MACT rule
07/05 16:17	07/05 16:23	1	FCCU Opacity	24	and the system at the one con cont.	
07/05 16:23	07/05 16:29	1	FCCU Opacity	24		
07/05 16:29	07/05 16:35	1	FCCU Opacity	24		
07/05 16:35	07/05 16:41	1	FCCU Opacity	21		
07/05 16:41	07/05 16:47	1	FCCU Opacity	21		
07/05 16:47	07/05 16:53	1	FCCU Opacity	22		
07/05 16:53	07/05 16:59	1	FCCU Opacity	22		
07/05 16:59	07/05 17:05	1	FCCU Opacity	22		
07/05 17:05	07/05 17:11	1	FCCU Opacity	23		
07/05 17:17 07/05 17:23	07/05 17:23	1 1	FCCU Opacity	24		
07/05 17:29	07/05 17:29 07/05 17:35	1	FCCU Opacity	24		
07/05 17:35	07/05 17:35	1	FCCU Opacity	24		
07/05 17:33	07/05 17:41		FCCU Opacity	22		
07/05 17:47	07/05 17:53	1	FCCU Opacity	21		
07/05 17:53	07/05 17:59	1	FCCU Opacity FCCU Opacity	21		
07/05 17:59	07/05 18:05	1 1	FCCU Opacity	21		
07/31 10:05	07/31 10:11	<del>                                     </del>	FCCU Opacity	21 36		
07/31 10:11	07/31 10:17	<del>                                     </del>	FCCU Opacity	26		
07/31 10:17	07/31 10:23	<del>                                     </del>	FCCU Opacity	25	Electrication of the popular of	
07/31 10:23	07/31 10:29	i i	FCCU Opacity	25	Electrical issue caused the FCCU feed pumps to shut	
07/31 10:29	07/31 10:35	The state of the s	FCCU Opacity	24	down and therefore reducing rate to the unit. The	Unit was stabilized and the ECDs to the state of
07/31 10:35	07/31 10:41	I	FCCU Opacity	23	sudden rate reduction caused excess CO which tripped	Unit was stabilized and the ESPs were brought back on lit
07/31 10:41	07/31 10:47	1	FCCU Opacity	23	the ESPs.	
07/31 10:47	07/31 10:53	I	FCCU Opacity	22		
07/31 11:00	07/31 11:05	1	FCCU Opacity	64		

#### FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equipment	Opacity (>20%)**	Cause	Corrective Action
08/25 06;23	08/25 06:29	1	FCCU Opacity	31		
08/25 06:29	08/25 06:35	1	FCCU Opacity	22		
08/25 06:35	08/25 06:41	I	FCCU Opacity	21		
08/25 06:41	08/25 06:47	1	FCCU Opacity	21		!
08/25 07:41	08/25 07:47	1	FCCU Opacity	21		
08/25 07:53	08/25 07:59	I	FCCU Opacity	25		
08/25 08:53	08/25 08:59	1	FCCU Opacity	31		
08/25 08:59	08/25 09:05	1	FCCU Opacity	22		
08/25 09:05	08/25 09:11	1	FCCU Opacity	22		
08/25 09:11	08/25 09:17	1	FCCU Opacity	22		
08/25 09:17	08/25 09:23	1	FCCU Opacity	22 22		
08/25 09:23	08/25 09:29	1	FCCU Opacity	22		TY 101 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
08/25 09:29	08/25 09:35	1	FCCU Opacity	23 23		Upon initial review, consistent with EPA's Startup Shutdown
08/25 09:35	08/25 09:41	l	FCCU Opacity			Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/25 09:41	08/25 09:47	1	FCCU Opacity	23		exemption as provided in 40 CFR 60.8. Specifically, events not
08/25 09:47	08/25 09:53	1	FCCU Opacity	23		caused by poor operation, maintenance, or design of process or
08/25 09:53	08/25 09:59	1	FCCU Opacity	23		control equipment are everant from the NSPS limits provided that the
08/25 10:05	08/25 10:11	1	FCCU Opacity	_23	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	emissions were minimized consistent with good air pollution control
08/25 10:11	08/25 10:17	1	FCCU Opacity	23	structure 3001 which is approximately 4 miles from the	
08/25 10:17	08/25 10:23	1	FCCU Opacity	24	refinery. The lightning strike caused all three phases of	practices and repairs were made in an expeditious fashion. In this case, the emission event was caused by a lightning strike and a
08/25 10:23	08/25 10:29	1	FCCU Opacity	23		
08/25 10:29	08/25 10:35	l l	FCCU Opacity	23	the 120 KV line to be felled to ground resulting in the	subsequent external power failure beyond MPC's control. MPC
08/25 10:35	08/25 10:41	1	FCCU Opacity	23	loss of Detroit Edison's (DTE's) Transformer #102 in	took immediate action to minimize emissions by shutting down the
08/25 10:41	08/25 10:47	1	FCCU Opacity	24	Ironton and a lockout of bus 102 at their Ironton	
08/25 10:47	08/25 10:53	ı	FCCU Opacity	23 24	Substation. As a result of the lightning strike and	refinery operations with the exception of the FCCU. The FCCU
08/25 10:53	08/25 10:59	1	FCCU Opacity		resulting external power failure, the Refinery shut down	emissions were minimized by reducing rate which in turn avoided
08/25 10:59	08/25 11:05	1	FCCU Opacity	24		any excess emissions that would have resulted from a subsequent
08/25 11:11	08/25 11:17	1	FCCU Opacity	24	its operations and stabilized units.	FCCU startup. Furthermore, the steam produced by the FCCU
08/25 11:17	08/25 11:23	1	FCCU Opacity	24		ensured good flare combustion. Finally, crews worked through the
08/25 11:23	08/25 11:29	1	FCCU Opacity	24		night to ensure that the damaged boiler was expeditiously repaired
08/25 11:29	08/25 11:35	1	FCCU Opacity	24	1	
08/25 11:35	08/25 11:41	1	FCCU Opacity	24		and returned to service producing steam for the flares and the safe
08/25 11:41	08/25 11:47	1	FCCU Opacity	24		startup of the process units.
08/25 11:47	08/25 11:53	I	FCCU Opacity	24		
08/25 11:53	08/25 11:59	1	FCCU Opacity	24		
08/25 11:59	08/25 12:05	1	FCCU Opacity	24		
08/25 12:05	08/25 12:11	i	FCCU Opacity	24		
08/25 12:17	08/25 12;23	l l	FCCU Opacity	25	1	
08/25 12:23	08/25 12:29	1	FCCU Opacity	25		
08/25 12:29	08/25 12:35	I I	FCCU Opacity	25 25		
08/25 12:35	08/25 12:41	1	FCCU Opacity FCCU Opacity	25		
08/25 12:41	08/25 12:47 08/25 12:53	1	FCCU Opacity	25		
08/25 12:47	08/25 12:59	1	FCCU Opacity	25		
08/25 12:53		1	FCCU Opacity	25		
08/25 12:59	08/25 13:05	1	rcco Opacity	1 43	<u></u>	<u> </u>

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#### FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equip <del>ment</del>	Opacity (>20%)**	Cause	Corrective Action
08/25 13:05	08/25 13:11	1 F	CCU Opacity	25		
08/25 13:11	00/25 13:17	1 1	CCU Opacity	25		
08/25 13:11	08/25 13:17 08/25 13:29		CCU Opacity	25		
08/25 13:29	08/25 13:35		CCU Opacity	25		
08/25 13:35	08/25 13:41	i i	CCU Opacity	25		
08/25 13:33	08/25 13:47		CCU Opacity	25		
08/25 13:41	08/25 13:53		CCU Opacity	25		
08/25 13:53	00/25 13.55		CCU Opacity	25		
	08/25 13;59 08/25 14:05	1 5	CCU Opacity	25		
08/25 13:59 08/25 14:05	08/25 14:03	1 1	CCU Opacity	25		
08/25 14:03	08/25 14:17		CCU Opacity	25		
08/25 14:11	08/25 14:23	1 1	CCU Opacity	25		
08/25 14:17	08/25 14:35	1 1	CCU Opacity	26		
	08/25 14:41		CCU Opacity	26		
08/25 14:35 08/25 14:41	08/25 14:47		CCU Opacity	26		
08/25 14:41	08/25 14:53	1 1	CCU Opacity	26		
08/25 14:47	08/25 14:59	1 1	CCU Opacity	26		
	08/25 15:05		CCU Opacity	26	· ·	
08/25 14:59 08/25 15:05	08/25 15:05	i Pi	CCU Opacity	26		
			CCU Opacity	26		
08/25 15:11	08/25 15:17 08/25 15:23		CCU Opacity	26		Upon initial review, consistent with EPA's Startup Shutdown
08/25 15:17 08/25 15:23	08/25 15:29		CCU Opacity	26		Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/25 15:25	08/25 15:41		CCU Opacity	26		exemption as provided in 40 CFR 60.8. Specifically, events not
08/25 15:41	08/25 15:47		CCU Opacity	20 27		caused by poor operation, maintenance, or design of process or
08/25 15:47	08/25 15:53		CCU Opacity	26		
08/25 15:53	08/25 15:59	1 1	CCU Opacity	26	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	control equipment are exempt from the NSPS limits provided that the
08/25 15:59	08/25 16:05		CCU Opacity	27	structure 3001 which is approximately 4 miles from the	emissions were minimized consistent with good air pollution control
	08/25 16:03			27		practices and repairs were made in an expeditious fashion. In this
08/25 16:05 08/25 16:11	08/25 16:17	1 1 170	CU Opacity	26	refinery. The lightning strike caused all three phases of	case, the emission event was caused by a lightning strike and a
		1	CCU Opacity CCU Opacity	26	the 120 KV line to be felled to ground resulting in the	subsequent external power failure beyond MPC's control. MPC
08/25 16:17	08/25 16:23 08/25 16:29	1 1	CCU Opacity	27	loss of Detroit Edison's (DTE's) Transformer #102 in	
08/25 16:23	08/25 16:35	1 1	CCU Opacity CCU Opacity	27	Ironton and a lockout of bus 102 at their Ironton	took immediate action to minimize emissions by shutting down the
08/25 16:29 08/25 16:41	08/25 16:47			27	Substation. As a result of the lightning strike and	refinery operations with the exception of the FCCU. The FCCU
		1 7	CCU Opacity CCU Opacity	26		emissions were minimized by reducing rate which in turn avoided
08/25 16:47	08/25 16:53 08/25 16:59	1	CO Opacity	26	resulting external power failure, the Refinery shut down	any excess emissions that would have resulted from a subsequent
08/25 16:53	08/25 17:05	1 1	CU Opacity CU Opacity	26	its operations and stabilized units.	FCCU startup. Furthermore, the steam produced by the FCCU
08/25 16:59 08/25 17:05	08/25 17:11	1 50	CCU Opacity	26		
08/25 17:11	08/25 17:17		CU Opacity	26		ensured good flare combustion. Finally, crews worked through the
08/25 17:17	08/25 17:23	1 1 17	CCU Opacity	27		night to ensure that the damaged boiler was expeditiously repaired
08/25 17:17	08/25 17:29	1 1	CCU Opacity	27		and returned to service producing steam for the flares and the safe
08/25 17:29	08/25 17:35			27		startup of the process units.
08/25 17:29	08/25 17:41	1 57	CCU Opacity CCU Opacity	27		named as ma branch action
08/23 17:33	08/25 17:53		CCU Opacity	27		
08/25 17:53	08/25 17:59		CU Opacity	26		
08/25 17:59	08/25 17:37		CU Opacity	27		
08/25 18:05	08/25 18:11	1 1 17	CU Opacity	27		
08/25 18:11	08/25 18:17	+ + + + + + + + + + + + + + + + + + +	CU Opacity	27		
08/25 18:17	08/25 18:17		CU Opacity	27		
08/25 18:23	08/25 18:29		CCU Opacity	27		
08/25 18:29	08/25 18:35		CCU Opacity	27	İ	
08/25 18:35	08/25 18:41		CU Opacity	27		
08/25 18:41	08/25 18:47		CU Opacity	27		
08/25 18:53	08/25 18:59		CU Opacity	27		
08/25 18:59	08/25 19:05		CU Opacity	27		
08/25 19:05	08/25 19:11		CU Opacity	27		
08/25 19:11	08/25 19:17	î Ê	CCU Opacity	27		
08/25 19:17	08/25 19:23	<del>                                     </del>	CU Opacity	27		
08/25 19:23	08/25 19:29		CCU Opacity	27		
08/25 19:29	08/25 19:35	i F	CU Opacity	27		
08/25 19:35	08/25 19:41	Î	CU Opacity	27	;	
00/25 (7.55	00/20 17.41					

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#### FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 Equipment minute average)	Opacity (>20%)**	Cause	Corrective Action
08/25 19:41	08/25 19:47	I FCCU Opacity	27		
08/25 19:47	08/25 19:53	I FCCU Opacity	27		
08/25 19:53	08/25 19:59	I FCCU Opacity	27		
08/25 19:59	08/25 20:05	1 FCCU Opacity	27		
08/25 20:05	08/25 20:11	1 FCCU Opacity	27		
08/25 20:11	08/25 20:17	1 FCCU Opacity	27		
08/25 20:17	08/25 20:23	1 FCCU Opacity	27		
08/25 20:23	08/25 20:29	1 FCCU Opacity	27		
08/25 20:29	08/25 20:35	1 FCCU Opacity	27		
08/25 20:35	08/25 20:41	1 FCCU Opacity	29 30		
08/25 20:41	08/25 20:47	1 FCCU Opacity 1 FCCU Opacity	28		
08/25 20:47	08/25 20:53	1 FCCU Opacity	27	4	
08/25 20:53	08/25 20:59 08/25 21:05	I FCCU Opacity	28		
08/25 20;59 08/25 21:05	08/25 21:11	1 FCCU Opacity	28		
08/23 21:03	08/25 21:17	1 FCCU Opacity	28		
08/25 21:11	08/25 21:23	i FCCU Opacity	28		
08/25 21:17 08/25 21:23	08/25 21:29	1 FCCU Opacity	28		
08/25 21:29	08/25 21:35	1 FCCU Opacity	28		
08/25 21:35	08/25 21:41	I FCCU Opacity	28		Upon initial review, consistent with EPA's Startup Shutdown
08/25 21:41	08/25 21:41 08/25 21:47	I FCCU Opacity	28		Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/25 21:47	08/25 21:53	1 FCCU Opacity	28		exemption as provided in 40 CFR 60.8. Specifically, events not
08/25 21:53	08/25 21:59	1 FCCU Opacity	28		
08/25 21:59	08/25 22:05 08/25 22:11	1 FCCU Opacity	28		caused by poor operation, maintenance, or design of process or
08/25 22:05	08/25 22:11	FCCU Opacity	28 28	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	control equipment are exempt from the NSPS limits provided that the
08/25 22:11	08/25 22:17	I FCCU Opacity		At 0.20 Alvi on August 25, 2011, a uguting strike int 110	emissions were minimized consistent with good air pollution control
08/25 22:17	08/25 22:23 08/25 22:29	1 FCCU Opacity	28	structure 3001 which is approximately 4 miles from the	practices and repairs were made in an expeditious fashion. In this
08/25 22:23	08/25 22:29	1 FCCU Opacity 1 FCCU Opacity	28	refinery. The lightning strike caused all three phases of	case, the emission event was caused by a lightning strike and a
08/25 22:29	08/25 22:35	1 FCCU Opacity	28 29	the 120 KV line to be felled to ground resulting in the	subsequent external power failure beyond MPC's control. MPC
08/25 22:35 08/25 22:41	08/25 22:41 08/25 22:47 08/25 22:53	I FCCU Opacity	28	loss of Detroit Edison's (DTE's) Transformer #102 in	took immediate action to minimize emissions by shutting down the
08/25 22:41	08/25 22:47	1 FCCU Opacity	28	Ironton and a lockout of bus 102 at their Ironton	
08/25 22:53	08/25 22:59	1 FCCU Opacity	28	Substation. As a result of the lightning strike and	refinery operations with the exception of the FCCU. The FCCU
08/25 22:59	08/25 23:05	FCCU Onacity	28	resulting external power failure, the Refinery shut down	emissions were minimized by reducing rate which in turn avoided
08/25 23:05	08/25 23:11	1 FCCU Opacity 1 FCCU Opacity	28	its operations and stabilized units.	any excess emissions that would have resulted from a subsequent
08/25 23:11	08/25 23:17	<ol> <li>FCCU Opacity</li> </ol>	28	its operations and statimized taxts.	FCCU startup. Furthermore, the steam produced by the FCCU
08/25 23:17	08/25 23:23 08/25 23:29	1 FCCU Opacity	28		ensured good flare combustion. Finally, crews worked through the
08/25 23:23	08/25 23:29	1 FCCU Opacity	28		night to ensure that the damaged boiler was expeditiously repaired
08/25 23:29	08/25 23:35	1 FCCU Opacity	28		and returned to service producing steam for the flares and the safe
08/25 23:35 08/25 23:41	08/25 23:41	1 FCCU Opacity	28		startup of the process units.
08/25 23:41	08/25 23:47	I FCCU Opacity	27		startup of the process times.
08/25 23:47	08/25 23:41 08/25 23:47 08/25 23:53 08/25 23:59	1 FCCU Opacity	27		
08/25 23:53	08/25 23:59	1 FCCU Opacity	28 28		
08/26 00:00	08/26 00:05 08/26 00:11	1 FCCU Opacity 1 FCCU Opacity	28		
08/26 00:05		1 FCCU Opacity	28		
08/26 00:11	08/26 00:17 08/26 00:23	1 FCCU Opacity	28	1	
08/26 00:17 08/26 00:23	08/26 00:29	1 FCCU Opacity	28		
08/26 00:23	08/26 00:35	1 FCCU Opacity	28		
08/26 00:35	08/26 00:41	1 FCCU Opacity	28		
08/26 00:41	08/26 00:47	1 FCCU Opacity	28		ļ.
08/26 00:47	08/26 00:53	I FCCU Opacity	28		
08/26 00:53	08/26 00:59	1 FCCU Opacity	28		
08/26 00:59	08/26 01:05	1 FCCU Opacity	28		
08/26 01:05	08/26 01:11	1 FCCU Opacity	28		
08/26 01:11	08/26 01:17	1 FCCU Opacity	28		
08/26 01:17	08/26 01:23	1 FCCU Opacity	28		
08/26 01:23	08/26 01:29	1 FCCU Opacity	28 28		
08/26 01:29	08/26 01:35	1 FCCU Opacity 1 FCCU Opacity	28		
08/26 01:35	08/26 01:41	1 Feet Opacity	1 20		<u> </u>

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#### FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equipment	Opacity (>20%)**	Cause	Corrective Action
08/26 01:41	08/26 01:47	1 1	FCCU Opacity	28		
08/26 01:47	08/26 01:53	1	FCCU Opacity	28		•
08/26 01:53	08/26 01:59	1	FCCU Opacity	28		
08/26 01:59	08/26 02:05	1	FCCU Opacity	28		
08/26 02:05 08/26 02:11	08/26 02:11	1	FCCU Opacity FCCU Opacity	28		į
08/26 02:11	08/26 02:17 08/26 02:23	1	FCCU Opacity	28		
08/26 02:17	08/26 02:29	1	FCCU Opacity	28	-	
08/26 02:29	08/26 02:35	i	FCCU Opacity	28	-	
08/26 02:35	08/26 02;41	i	FCCU Opacity	28	-	
08/26 02:41	08/26 02:47	I	FCCU Opacity	28	1	
08/26 02:47	08/26 02:53	1	FCCU Opacity	28	]	
08/26 02:53	08/26 02:59 08/26 03:05	1	FCCU Opacity	28		
08/26 02:59 08/26 03:05	08/26 03:05	1	FCCU Opacity	28		
08/26 03:05	08/26 03:11 08/26 03:17		FCCU Opacity FCCU Opacity	28 28		
08/26 03:17	08/26 03:23	1	FCCU Opacity	28	1	
08/26 03:23	08/26 03:29	1	FCCU Opacity	28	1	
08/26 03:29	08/26 03:35	i	FCCU Opacity	28	1	
08/26 03:35	08/26 03:41	I	FCCU Opacity	28	1	The initial accions and the EDA? Gard of Ch. 4.3.
08/26 03:41	08/26 03;47	1	FCCU Opacity	28		Upon initial review, consistent with EPA's Startup Shutdown
08/26 03:47	08/26 03:53	1	FCCU Opacity	28	]	Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/26 03;53	08/26 03:59		FCCU Opacity	28 29		exemption as provided in 40 CFR 60.8. Specifically, events not
08/26 03:59	08/26 04:05	1	FCCU Opacity	29		caused by poor operation, maintenance, or design of process or
08/26 04:05 08/26 04:11	08/26 04:11 08/26 04:17	1 1	FCCU Opacity	28	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	control equipment are exempt from the NSPS limits provided that the
08/26 04:17	08/26 04:17	<del></del>	FCCU Opacity	28	structure 3001 which is approximately 4 miles from the	emissions were minimized consistent with good air pollution control
08/26 04:17	08/26 04:29		FCCU Opacity FCCU Opacity	28 28		practices and repairs were made in an expeditious fashion. In this
08/26 04:29	08/26 04:35	1 1	FCCU Opacity	28	refinery. The lightning strike caused all three phases of	case, the emission event was caused by a lightning strike and a
08/26 04:35	08/26 04:41	i	FCCU Opacity	28	the 120 KV line to be felled to ground resulting in the	subsequent external power failure beyond MPC's control. MPC
08/26 04:41	08/26 04:47	1	FCCU Opacity	28	loss of Detroit Edison's (DTE's) Transformer #102 in	took immediate action to minimize emissions by shutting down the
08/26 04:47	08/26 04:53	1	FCCU Opacity	28	Ironton and a lockout of bus 102 at their Ironton	refinery operations with the exception of the FCCU. The FCCU
08/26 04:53	08/26 04:59	1	FCCU Opacity	28	Substation. As a result of the lightning strike and	
08/26 04:59 08/26 05:05	08/26 05:05	1	FCCU Opacity	28	resulting external power failure, the Refinery shut down	emissions were minimized by reducing rate which in turn avoided
08/26 05:11	08/26 05:11 08/26 05:17		FCCU Opacity FCCU Opacity	28 28	its operations and stabilized units.	any excess emissions that would have resulted from a subsequent
08/26 05:17	08/26 05:23	<del></del>	FCCU Opacity	28	-	FCCU startup. Furthermore, the steam produced by the FCCU
08/26 05:23	08/26 05:29	<del>-</del>	FCCU Opacity	28		ensured good flare combustion. Finally, crews worked through the
08/26 05:29	08/26 05:35	<del>† 1</del>	FCCU Opacity	28		night to ensure that the damaged boiler was expeditiously repaired
08/26 05:35	08/26 05:41	1	FCCU Opacity	28		and returned to service producing steam for the flares and the safe
08/26 05:41	08/26 05:47	1	FCCU Opacity	28		startup of the process units.
08/26 05:47	08/26 05:53		FCCU Opacity	28		-
08/26 05:53	08/26 05:59	1 1	FCCU Opacity	29		
08/26 05:59 08/26 06:05	08/26 06:05 08/26 06:11	<del>                                     </del>	FCCU Opacity	28		
08/26 06:11	08/26 06:17	<del>                                     </del>	FCCU Opacity FCCU Opacity	28		
08/26 06:17	08/26 06:23	1 1	FCCU Opacity	29 28		
08/26 06:23	08/26 06:29	+ †	FCCU Opacity	28		
08/26 06:29	08/26 06:35	<del></del>	FCCU Opacity	28		
08/26 06:35	08/26 06:41	1 1	FCCU Opacity	28		
08/26 06:41	08/26 06:47		FCCU Opacity	28		
08/26 06:47	08/26 06:53	1	FCCU Opacity	28		
08/26 06:53	08/26 06:59	1 1	FCCU Opacity	28		
08/26 06:59 08/26 07:05	08/26 07:05 08/26 07:11		FCCU Opacity	28 28		
08/26 07:11	08/26 07:17	1	FCCU Opacity FCCU Opacity	28	:	
08/26 07:17	08/26 07:23		FCCU Opacity	28		
08/26 07:23	08/26 07:29	<del>                                     </del>	FCCU Opacity	28		
08/26 07:29	08/26 07:35	1 i l	FCCU Opacity	28		
08/26 07:35	08/26 07:41		FCCU Opacity	28		

#### FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equipment	Opacity (>20%)**	Cause	Corrective Action
08/26 07:41	08/26 07:47	1 1	FCCU Opacity	28		
08/26 07:47	08/26 07:53	i	FCCU Opacity	28		
08/26 07:53	08/26 07:59	i	FCCU Opacity	28		
08/26 07:59	08/26 08:05	ī	FCCU Opacity	28		
08/26 08:05	08/26 08:11	i	FCCU Opacity	28	1	
08/26 08:11	08/26 08:17	ı	FCCU Opacity	28		
08/26 08:17	08/26 08:23	1	FCCU Opacity	28		
08/26 08:23	08/26 08:29	I	FCCU Opacity	28		
08/26 08:29	08/26 08:35		FCCU Opacity	28		
08/26 08:35	08/26 08:41	1	FCCU Opacity	28		
08/26 08:41	08/26 08:47		FCCU Opacity	28		İ
08/26 08:47	08/26 08:53		FCCU Opacity	28		
08/26 08:53	08/26 08:59	1	FCCU Opacity FCCU Opacity	29 28		
08/26 08:59	08/26 09:05	1	FCCU Opacity	28		
08/26 09:05 08/26 09:11	08/26 09:11 08/26 09:17		FCCU Opacity	28		
08/26 09:11	08/26 09:23		FCCU Opacity	28		
08/26 09:17	08/26 09:29	1	FCCU Opacity	28		
08/26 09:29	08/26 09:35	1	FCCU Opacity	28		
08/26 09:35	08/26 09:41	i	FCCU Opacity	28		Upon initial review, consistent with EPA's Startup Shutdown
08/26 09:41	08/26 09:47	i	FCCU Opacity	28		
08/26 09:47	08/26 09:53	1	FCCU Opacity	28		Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/26 09:53	08/26 09:59	1	FCCU Opacity	28 28		exemption as provided in 40 CFR 60.8. Specifically, events not
08/26 09:59	08/26 10:05	1	FCCU Opacity	28		caused by poor operation, maintenance, or design of process or
08/26 10:05	08/26 10:11	1	FCCU Opacity FCCU Opacity	28	4. COO AND 4. COO COOL COLO CONT. T. 12. IT.C.	control equipment are exempt from the NSPS limits provided that the
08/26 10:11	08/26 10:17	1	FCCU Opacity	28	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	emissions were minimized consistent with good air pollution control
08/26 10:17	08/26 10:23	1	FCCU Opacity	28	structure 3001 which is approximately 4 miles from the	practices and repairs were made in an expeditious fashion. In this
08/26 10:23	08/26 10:29	1	FCCU Opacity	28	refinery. The lightning strike caused all three phases of	case, the emission event was caused by a lightning strike and a
08/26 10:29	08/26 10:35	1	FCCU Opacity	28	the 120 KV line to be felled to ground resulting in the	
08/26 10:35	08/26 10:41		FCCU Opacity	29	loss of Detroit Edison's (DTE's) Transformer #102 in	subsequent external power failure beyond MPC's control. MPC
08/26 10:41	08/26 10:47	1	FCCU Opacity	28	Ironton and a lockout of bus 102 at their Ironton	took immediate action to minimize emissions by shutting down the
08/26 10:47	08/26 10:53	1	FCCU Opacity	28		refinery operations with the exception of the FCCU. The FCCU
08/26 10:53	08/26 10:59 08/26 11:05		FCCU Opacity FCCU Opacity	28 28	Substation. As a result of the lightning strike and	emissions were minimized by reducing rate which in turn avoided
08/26 10:59 08/26 11:05	08/26 11:03	1	FCCU Opacity	28	resulting external power failure, the Refinery shut down	any excess emissions that would have resulted from a subsequent
08/26 11:03	08/26 11:17	<del></del>	FCCU Opacity	28	its operations and stabilized units.	FCCU startup. Furthermore, the steam produced by the FCCU
08/26 11:17	08/26 11:17		FCCU Opacity	28		ensured good flare combustion. Finally, crews worked through the
08/26 11:23	08/26 11:29	1 1	FCCU Opacity	28		night to ensure that the damaged boiler was expeditiously repaired
08/26 11:29	08/26 11:35		FCCU Opacity	27		
08/26 11:35	08/26 11:41		FCCU Opacity	28		and returned to service producing steam for the flares and the safe
08/26 11:41	08/26 11:47	1	FCCU Opacity	28 28		startup of the process units.
08/26 11:47	08/26 11:53	1	FCCU Opacity	28		
08/26 11:53	08/26 11:59	1	FCCU Opacity	28		
08/26 11:59	08/26 12:05	1	FCCU Opacity	28		
08/26 12:05	08/26 12:11	1 1	FCCU Opacity	28		
08/26 12:11	08/26 12:17		FCCU Opacity	28		
08/26 12:17	08/26 12:23 08/26 12:29	<u> </u>	FCCU Opacity	28		
08/26 12:23 08/26 12:29	08/26 12:29	1	FCCU Opacity FCCU Opacity	28		
09/26 12:29	08/26 12:41		FCCU Opacity	28		
08/26 12:35 08/26 12:41	08/26 12:47	<del>                                     </del>	FCCU Opacity	28		
08/26 12:41	08/26 12:53	<del>                                     </del>	FCCU Opacity	28		
08/26 12:53	08/26 12:59		FCCU Opacity	28		
08/26 12:59	08/26 13:05	i	FCCU Opacity	28		
08/26 13:05	08/26 13:11	i	FCCU Opacity	28		
08/26 13:11	08/26 13:17	1 1	FCCU Opacity	28		
08/26 13:17	08/26 13:23	1	FCCU Opacity	28		
08/26 13:23	08/26 13:29	1	FCCU Opacity	28 28		
08/26 13:29	08/26 13:35		FCCU Opacity	28		
08/26 13:35	08/26 13:41	1	FCCU Opacity	28		

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#### FCCU Opacity

FCCU Opacity						
Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equipment	Opacity (>20%)**	Cause	Corrective Action
70/27 12:41	08/26 13:47	1	FCCU Opacity	28		
08/26 13:41 08/26 13:47	08/26 13:53	1	FCCU Opacity	28		
08/26 13:53	08/26 13:59	1	FCCU Opacity	28		
08/26 13:59	08/26 14:05	1	FCCU Opacity	28		
08/26 14:05	08/26 14:11	1	FCCU Opacity	30		
08/26 14:11	08/26 14:17	1	FCCU Opacity	28		
08/26 14:17	08/26 14:23 08/26 14:29	1	FCCU Opacity	28		
08/26 14:23	08/26 14:29	1	FCCU Opacity FCCU Opacity	28		
08/26 14:29	08/26 14:35	1 1	FCCU Opacity	28		
08/26 14:35	08/26 14:41		FCCU Opacity	28		
08/26 14:41	08/26 14:47		FCCU Opacity	28		
08/26 14:47	08/26 14:53 08/26 14:59	<del></del>	FCCU Opacity	28		
08/26 14:53	08/26 15:05	1	FCCU Opacity	28		
08/26 14:59	08/26 15:11	1	FCCU Opacity	28 28		
08/26 15:05	08/26 15:17	<del>+ - i - +</del>	FCCU Opacity	28	1	
08/26 15:11 08/26 15:17	08/26 15:23	i i	FCCU Opacity	28	-	
08/26 15:23	08/26 15:29	1	FCCU Opacity	28	4	
08/26 15:29	08/26 15:35	1	FCCU Opacity	28 28		Upon initial review, consistent with EPA's Startup Shutdown
08/26 15:35	08/26 15:41	1	FCCU Opacity	28		Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/26 15:41	08/26 15:47		FCCU Opacity	29	-	exemption as provided in 40 CFR 60.8. Specifically, events not
08/26 15:47	08/26 15:53		FCCU Opacity	28	•	caused by poor operation, maintenance, or design of process or
08/26 15:53	08/26 15:59	1	FCCU Opacity FCCU Opacity	28	1	caused by poor operation, maintenance, or design of process of
08/26 15:59	08/26 16:05		FCCU Opacity	28		control equipment are exempt from the NSPS limits provided that the
08/26 16:05	08/26 16:11		FCCU Opacity	29	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	emissions were minimized consistent with good air pollution control
08/26 16:11	08/26 16:17	<del>-</del>	FCCU Opacity	29	structure 3001 which is approximately 4 miles from the	practices and repairs were made in an expeditious fashion. In this
08/26 16:17	08/26 16:23		FCCU Opacity	28	refinery. The lightning strike caused all three phases of	case the emission event was caused by a lightning strike and a
08/26 16:23	08/26 16:29	<del></del>	FCCU Opacity	28	the 120 KV line to be felled to ground resulting in the	subsequent external power failure beyond MPC's control. MPC
08/26 16:29	08/26 16:35 08/26 16:41	<del>-   -     -                            </del>	FCCU Opacity	28	loss of Detroit Edison's (DTE's) Transformer #102 in	took immediate action to minimize emissions by shutting down the
08/26 16:35	08/26 16:47	i	FCCU Opacity	28	Ironton and a lockout of bus 102 at their Ironton	refinery operations with the exception of the FCCU. The FCCU
08/26 16:41 08/26 16:47	08/26 16:53	i	FCCU Opacity	28	Substation. As a result of the lightning strike and	refinery operations with the exception of the Peeds. The reco
08/26 16:53	08/26 16:59	1	FCCU Opacity	28	Substation. As a result of the rightning strike and	emissions were minimized by reducing rate which in turn avoided
08/26 16:59	08/26 17:05	1	FCCU Opacity	28	resulting external power failure, the Refinery shut down	any excess emissions that would have resulted from a subsequent
08/26 17:05	08/26 17:11	1	FCCU Opacity	29 29	its operations and stabilized units.	FCCU startup. Furthermore, the steam produced by the FCCU
08/26 17:11	08/26 17:17	1	FCCU Opacity	29		ensured good flare combustion. Finally, crews worked through the
08/26 17:17	08/26 17:23	1	FCCU Opacity	29 28	- <del>-</del> -	pight to ensure that the damaged boiler was expeditiously repaired
08/26 17:23	08/26 17:29	1	FCCU Opacity FCCU Opacity	29	-	and returned to service producing steam for the flares and the safe
08/26 17:29	08/26 17:35		FCCU Opacity	29		startup of the process units.
08/26 17:35	08/26 17:41		FCCU Opacity	29	<del>-</del>	Startup of the province
08/26 17:41	08/26 17:47	<del></del>	FCCU Opacity	29	1	
08/26 17:47	08/26 17:53 08/26 17:59	<del></del>	FCCU Opacity	29		
08/26 17:53	08/26 17:39	<del></del>	FCCU Opacity	29	_	
08/26 17:59	08/26 18:11	i	FCCU Opacity	29	_1	
08/26 18:05 08/26 18:11	08/26 18:17	i	FCCU Opacity	28	_	
08/26 18:17	08/26 18:23	1	FCCU Opacity	29	4	
08/26 18:23	08/26 18:29	I I	FCCU Opacity	29	-	
08/26 18:29	08/26 18:35		FCCU Opacity	29 29	-	
08/26 18:35	08/26 18:41	1	FCCU Opacity	29	<del>- </del>	
08/26 18:41	08/26 18:47		FCCU Opacity FCCU Opacity	29	╡	
08/26 18:47	08/26 18:53		FCCU Opacity	28	-	
08/26 18:53	08/26 18:59		FCCU Opacity	29	7	
08/26 18:59	08/26 19:05		FCCU Opacity	29		
08/26 19:05	08/26 19:11	1	FCCU Opacity	29		
08/26 19:11	08/26 19:17 08/26 19:23		FCCU Opacity	29		
08/26 19:17	08/26 19:23		FCCU Opacity	29 29		
08/26 19:23	08/26 19:35	<del>-</del>	FCCU Opacity	29		
08/26 19:29	08/26 19:41	- 1 - i	FCCU Opacity	29		
08/26 19:35	00/20 17.41					

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#### FCCU Opacity

Start Date/Time*	End Date/Time*	Duration of Excess Emissions (6 minute average)	Equipment	Opacity (>20%)**	Cause	Corrective Action
08/26 19:41	08/26 19:47	l F	CCU Opacity	29 29		
08/26 19:47	08/26 19:53		CCU Opacity	29		
08/26 19:53	08/26 19:59		CCU Opacity	29		
08/26 19:59	08/26 20:05	1 F	CCU Opacity	29		
08/26 20:05	08/26 20:11	1 1 F	CCU Opacity	29 29		
08/26 20:11	08/26 20:17		CCU Opacity	29		
08/26 20:17 08/26 20:23	08/26 20:23 08/26 20:29		CCU Opacity CCU Opacity	29	·	
08/26 20:23	08/26 20:29	1 1	CCU Opacity			
08/26 20:29	08/26 20:41	1	CCU Opacity	29 29		
08/26 20:41	08/26 20:47	1 1 F	CCU Opacity	29		
08/26 20:47	08/26 20:53	i F	CCU Opacity	30		
08/26 20:53	08/26 20:59		CCU Opacity	29		
08/26 20:59	08/26 21:05	T P	CCU Opacity	29		
08/26 21:05	08/26 21:11	1 F	CCU Opacity	29		
08/26 21:11	08/26 21:17 08/26 21:23	[ ] 1   F	CCU Opacity	29		
08/26 21:17	08/26 21:23	1 F	CCU Opacity	29		
08/26 21:23	08/26 21:29		CCU Opacity	29		
08/26 21:29	08/26 21:35	1 F	CCU Opacity	29		
08/26 21:35	08/26 21:41	1 F	CCU Opacity CCU Opacity CCU Opacity	29 29		Upon initial review, consistent with EPA's Startup Shutdown
08/26 21:41 08/26 21:47	08/26 21:47 08/26 21:53	1 P	CU Opacity	29		Malfunction (SSM) policy, this event qualifies for the NSPS SSM
08/26 21:47	08/26 21:53	1 5	CCU Opacity	29		exemption as provided in 40 CFR 60.8. Specifically, events not
08/26 21:53 08/26 21:59	08/26 22:05		CCU Opacity	29		caused by poor operation, maintenance, or design of process or
08/26 22:05	08/26 22:03		CCU Opacity	28		control equipment are exempt from the NSPS limits provided that the
08/26 22:05 08/26 22:11	08/26 22:11 08/26 22:17 08/26 22:23	i F	CCU Opacity	29	At 6:20 AM on August 25, 2011, a lighting strike hit ITC	emissions were minimized consistent with good air pollution control
08/26 22:17	08/26 22:23	i F	CCU Opacity CCU Opacity	29	structure 3001 which is approximately 4 miles from the	
08/26 22:23	08/26 22:29	i F	CCU Opacity	28	refinery. The lightning strike caused all three phases of	practices and repairs were made in an expeditious fashion. In this
08/26 22:29	08/26 22:35	1 Fe	CCU Opacity	30	the 120 KV line to be felled to ground resulting in the	subsequent external power failure beyond MPC's control. MPC
08/26 22:35	08/26 22:41	1 F	CCU Opacity	29	loss of Detroit Edison's (DTE's) Transformer #102 in	
08/26 22:41	08/26 22:47 08/26 22:53	1 F	CCU Opacity CCU Opacity	29	Ironton and a lockout of bus 102 at their Ironton	took immediate action to minimize emissions by shutting down the
08/26 22:47	08/26 22:53	1 F	CCU Opacity	29 29		refinery operations with the exception of the FCCU. The FCCU
08/26 22:53	08/26 22:59	1 F	CCU Opacity	29	Substation. As a result of the lightning strike and	emissions were minimized by reducing rate which in turn avoided
08/26 22:59	08/26 23:05		CU Opacity	28	resulting external power failure, the Refinery shut down	any excess emissions that would have resulted from a subsequent
08/26 23:05 08/26 23:11 08/26 23:17	08/26 23:11	1 1	CCU Opacity	28 28	its operations and stabilized units.	FCCU startup. Furthermore, the steam produced by the FCCU
08/26 23:11	08/26 23:17 08/26 23:23	1 1	CCU Opacity CCU Opacity	28		ensured good flare combustion. Finally, crews worked through the
08/26 23:23	08/26 23:29	1 5	CCU Opacity	28		
08/26 23:23	08/26 23:35	1 5	CCU Opacity	28		night to ensure that the damaged boiler was expeditiously repaired
08/26 23:35	08/26 23:41		CCU Opacity			and returned to service producing steam for the flares and the safe
08/26 23:41	08/26 23:47	î Î	CCU Opacity	29 29		startup of the process units.
08/26 23:47	08/26 23:53	1 F(	CCU Opacity CCU Opacity	29		
08/26 23:41 08/26 23:47 08/26 23:53	08/26 23:47 08/26 23:53 08/26 23:59	1   F	CCU Opacity	28		
08/27 00:00	08/27 00:05	1 F	CCU Opacity	29		
08/27 00:05	08/27 00:11		CCU Opacity	29		
08/27 00:11	08/27 00:17		CCU Opacity	29		
08/27 00:17	08/27 00:23	1 F	CU Opacity	29 29		
08/27 00:23	08/27 00:29 08/27 00:35	1 10	CCU Opacity CCU Opacity	29		
08/27 00:29 08/27 00:35	08/27 00:35	1	CU Opacity	29		
08/27 00:33	08/27 00:47		CCU Opacity	28		
08/27 00:41	08/27 00:53		CU Opacity	28		
08/27 00:53	08/27 00:59	î Fo	CCU Opacity	28		
08/27 00:59	08/27 01:05	1 Fo	CCU Opacity CCU Opacity	27		
08/27 01:05	08/27 01:11	1 F0	CCU Opacity	27		
08/27 01:11	08/27 01:17	1 F0	CCU Opacity	27		
08/27 01:17	08/27 01:23		CCU Opacity	28		
08/27 01:23	08/27 01:29	1 F0	CCU Opacity	28		
08/27 01:29	08/27 01:35		CCU Opacity	27		
08/27 01:35	08/27 01:41		CCU Opacity	27		
	Total hou Operating Hou % Excess Emission	rs 2208				

\*The start time and end time are approximate.
\*\*Opacity limit is 20% (6-minute average)

### MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT AIR QUALITY DIVISION

### RENEWABLE OPERATING PERMIT REPORT CERTIFICATION

Authorized by 1994 P.A. 451, as amended. Failure to provide this information may result in civil and/or criminal penalties.

Reports submitted pursuant to R 336.1213 (Rule 213), subrules (3)(c) and/or (4)(c), of Michigan's Renewable Operating Permit (ROP) program must be certified by a responsible official. Additional information regarding the reports and documentation listed below must be kept on file for at least 5 years, as specified in Rule 213(3)(b)(ii), and be made available to the Department of Natural Resources and Environment, Air Quality Division upon request.

Source Name Marathon Petroleum Comp	oany LP			County Wayne	
ource Address 1300 South Fort Stree			City	Detroit	
QD Source ID (SRN) A9831	ROP No.	199700013c	<del></del>	ROP Section No.	01
ase check the appropriate box(es):  Annual Compliance Certification (Pursu	ant to Rule 213(4)	(c))			· · · · · · · · · · · · · · · · · · ·
	France	To			
Reporting period (provide inclusive dates):  1. During the entire reporting period, this term and condition of which is identified a method(s) specified in the ROP.	na included by this	npliance with ALL ter reference. The met	104(0) 401		•
2. During the entire reporting period th term and condition of which is identified deviation report(s). The method used to unless otherwise indicated and described	determine complia	ance for each term ar	ms and c PT for the nd condition	onditions contained deviations identifie on is the method spe	in the ROP, each don the enclose ecified in the ROP
Semi-Annual (or More Frequent) Repor	t Certification (P	rsuant to Rule 213	3)(c))		· · · · · · · · · · · · · · · · · · ·
Semi-Annual (or More Frequent) Repor	t Octaniousion (				
Reporting period (provide inclusive dates)  1. During the entire reporting period, Aldeviations from these requirements or at	LL monitoring and ny other terms or c	Official occurred.			
<ul> <li>2. During the entire reporting period, all deviations from these requirements or a enclosed deviation report(s).</li> </ul>	monitoring and as ny other terms or c	sociated recordkeepi onditions occurred, E	ng require XCEPT fo	ements in the ROP was the deviations iden	rere met and no ntified on the
Other Report Certification		<b></b>	9/30/	(2011	
Reporting period (provide inclusive dates)	: From <u>7/1</u>	/2011 To			
Additional monitoring reports or other appl 3 <sup>rd</sup> Quarter 2011 Continuous En	nission Monito	ring (CEMS) Down	time an	d Excess Emissi	on
Report.	_				
			····		
certify that, based on information and belie	ef formed after rea	sonable inquiry, the Investment LLC,	statemen	ts and information I	n this report and
supporting enclosures are true, accurate and	its Ge	neral Partner		313	-843-9100
C.T. Case	Depu	ty Assistant Secretary Title			ne Number
Name of Responsible Official (print or type)		,		10	In It
(1/ (2.12					
Signature of Responsible Official					Date

<sup>\*</sup> Photocopy this form as needed.